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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,340	08/21/2000	Thomas Gray	8673-108 (8061-505 SJP/rs	8168

7590 03/25/2004
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EXAMINER

BRUCKART, BENJAMIN R

ART UNIT	PAPER NUMBER
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2155

10

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/642,340

Applicant(s)

GRAY ET AL.

Examiner

Benjamin R Bruckart

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Detailed Action

Status of Claims:

Claims 1-24 are pending in this Office Action.

The amended specification overcomes the objection; therefore the objection to the specification is withdrawn.

Response to Arguments

Applicant's arguments filed in the amendment filed March 1, 2004, Paper No. 9, have been fully considered but they are not persuasive. The reasons are set forth below.

Applicant's invention as claimed:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 are is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,974,420 by Lehman et al in view of U.S. Patent No. 5,924,103 by Ahmed et al ("Ahmed").

The Lehman reference teaches with regards to claim 1, a system for controlling and coordinating activities among entities in an information and process environment comprising (Lehman: col. 3, lines 21-30):

a) a communications pathway for transmitting and receiving communications of said entities (Lehman: col. 2, line 4; col. 3, lines 61-67); and

b) a shared memory connected to said communications pathway for maintaining a tuple space (Lehman: col. 1, lines 12-13) on which said entities post and receive messages synchronized atomically (Lehman: col. 2, lines 4-8; col. 3, lines 64-66).

The Lehman reference does not explicitly state the use of discrete time intervals.

The Ahmed reference teaches a using discrete time intervals (Ahmed: col. 5, lines 24-38) in tuple spaces.

The Ahmed reference further teaches the start and end times indicate a time interval in which the tuple contains current information (Ahmed: col. 5, lines 24-38)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create a system for information controlling and exchange as taught by Lehman while employing discrete time intervals as taught by Ahmed to maintain tuples with a temporal attribute to maintain current information (Ahmed: col. 5, lines 24-28).

Claims 2-8 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Lehman et al and Ahmed et al.

Regarding claim 2, the system of claim 1 wherein said messages are in the form of tuples (Lehman: col. 1, lines 24-25) and anti-tuples (Lehman: col. 1, line 27) (Lehman: col. 2, lines 25, 26).

Regarding claim 3, the system of Claim 1, wherein said entities include at least one entity that asserts a tuple on said tuple space signaling its intention to perform an action (Lehman: col. 2, lines 6, 7) and asserts and anti-tuple on said tuple space for evaluating outcomes of said

intention (Lehman: col. 1, lines 24-35); and at least at one further entity which asserts an anti-tuple for detecting said intentions (Lehman: col. 2, lines 7 and 8).

Regarding claim 4, the system of Claim 3, wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space (Lehman: col. 5, lines 35-43; Ahmed: col. 5, line 25; "end time").

Regarding claim 5, the system of claim 4 wherein said duration parameter is a multiple of said discrete time intervals (Ahmed: col. 5, lines 24-38).

Regarding claim 6, the system of claim 5 wherein said tuples are removed from said tuple space after said duration has elapsed (Ahmed: col. 5, lines 30-38).

Regarding claim 7, the system of claim 1 wherein said entities are hardware devices (Lehman: col. 4, lines 10-15 and 37-41).

Regarding claim 8, the system of claim 1 wherein said communication pathway is a network or bus (Lehman: col. 4, lines 15, 16).

The Lehman reference teaches regarding claim 9, a method for controlling and coordinating activities among entities in an information and process environment comprising the steps of (Lehman: col. 3, lines 21-30):

a) providing a communications pathway for transmitting and receiving communications of said entities (Lehman: col. 2, line 4; col. 3, lines 61-67);

b) providing a tuple space in a shared memory adapted for operation in discrete time intervals connected to said communications pathway (Lehman: col. 1, lines 12-13; col. 2, lines 4-8; col. 3, lines 64-66); and

c) posting and receiving messages of said entities to and from said tuple space synchronized atomically (Lehman: col. 2, lines 4-8; col. 1, lines 12 and 13).

The Lehman reference does not explicitly state the use of discrete time intervals.

The Ahmed reference teaches using discrete time intervals (Ahmed: col. 5, lines 24-38) in a tuple environment.

The Ahmed reference further teaches the start and end times indicate a time interval in which the tuple contains current information (Ahmed: col. 5, lines 24-38)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create a system for information controlling and exchange as taught by Lehman while employing discrete time intervals as taught by Ahmed to maintain tuples with a temporal attribute to maintain current information (Ahmed: col. 5, lines 24-28).

Claims 10-16 are rejected under the same rationale given above. In the rejections set forth, the examiner will address the additional limitations and point to the relevant teachings of Lehman et al and Ahmed et al.

Regarding claim 10, the method of claim 9 wherein said messages are in the form of tuples (Lehman: col. 1, lines 24-25) and anti-tuples (Lehman: col. 1, line 27) (Lehman: col. 2, lines 25, 26).

Regarding claim 11, the method of Claim 9, wherein said entities include at least one entity that asserts a tuple on said tuple space signaling its intention to perform an action (Lehman: col. 2, lines 6, 7) and asserts and anti-tuple on said tuple space for evaluating outcomes of said intention (Lehman: col. 1, lines 24-35); and at least at one further entity which asserts an anti-tuple for detecting said intentions (Lehman: col. 2, lines 7 and 8).

Regarding claim 12, the method of Claim 11, wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space (Lehman: col. 5, lines 35-43; Ahmed: col. 5, line 25; "end time").

Regarding claim 13, the method of claim 12 wherein said duration parameter is a multiple of said discrete time intervals (Ahmed: col. 5, lines 24-38).

Regarding claim 14, the method of claim 13 wherein said tuples are removed from said tuple space after said duration has elapsed (Ahmed: col. 5, lines 30-38).

Regarding claim 15, the method of claim 9 wherein said entities are hardware devices (Lehman: col. 4, lines 10-15 and 37-41).

Regarding claim 16, the method of claim 9 wherein said communication pathway is a network or bus (Lehman: col. 4, lines 15, 16).

The Lehman reference teaches regarding claim 17, a method of call processing comprising the steps of (Lehman: col. 1, lines 58-60):

a) providing entities representative of call processing features (Lehman: col. 1, lines 58-60);

b) providing a communications pathway for transmitting and receiving communications of said entities (Lehman: col. 2, line 4; col. 3, lines 61-67);

c) providing a tuple space in a shared memory adapted for operation connected to said communications pathway (Lehman: col. 1, lines 12-13; col. 2, lines 4-8; col. 3, lines 64-66);

d) requesting advice by a first of said entities desirous of taking action of other said entities before taking said action by posting messages communicated on said tuple space to said other entities through said pathway (Lehman: col. 2, lines 7, 8; where advice is data);

e) providing advice as desired by said other entities responsive to said messages by posting responding messages communicated on said tuple space to said first of said entities (Lehman: col. 2, lines 6, 7; where advice is shared data);

f) evaluating said responding messages, if any, by said first of said entities (Lehman: col. 1, lines 24-35; Table 1); and

g) taking advised action by said first of said entities after said evaluating said responding message (Lehman: data is inherently used or exchanged from the tuple that is matched or identified with the request; col. 3, lines 22-27).

The Lehman reference does not explicitly state the use of discrete time intervals.

The Ahmed reference teaches using discrete time intervals (Ahmed: col. 5, lines 24-38) in a tuple environment.

The Ahmed reference further teaches the start and end times indicate a time interval in which the tuple contains current information (Ahmed: col. 5, lines 24-38)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create a system for information controlling and exchange as taught by Lehman while employing discrete time intervals as taught by Ahmed to maintain tuples with a temporal attribute to maintain current information (Ahmed: col. 5, lines 24-28).

Claims 18-25 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Lehman et al and Ahmed et al.

Regarding claim 18, the method of claim 17 wherein said advised action ignores or overrides said responding messages (Lehman: col. 1, lines 24-35; Table 1; col. 1, lines 58-61 where it is depending on the match of the tuple and the data found).

Regarding claim 19, the method of claim 17 wherein said messages and said responding messages are in the form of tuples (Lehman: col. 1, lines 24-25) and anti-tuples (Lehman: col. 1, line 27) (Lehman: col. 2, lines 25, 26).

Regarding claim 20, the method of Claim 19 wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space (Lehman: col. 5, lines 35-43; Ahmed: col. 5, line 25; "end time").

Regarding claim 21, the method of claim 20 wherein said duration parameter is a multiple of said discrete time intervals (Ahmed: col. 5, lines 24-38).

Regarding claim 22, the method of claim 21 wherein said tuples are removed from said tuple space after said duration has elapsed (Ahmed: col. 5, lines 30-38).

Regarding claim 23, the method of claim 17 wherein said entities are software processes operating in memory under control of a processor (Lehman: col. 1, lines 58 and 59; col. 4, lines 37-41).

Regarding claim 24, the method of claim 17 wherein said entities are represented by agents (Lehman: col. 5, line 50 – col. 6, line 3; the Handler Factor manages the tuple space and may custom tailor the implementation of the operator's handler to the types of parameters).

Regarding claim 25, the method of claim 17 wherein said communication pathway is a network or bus (Lehman: col. 4, lines 15, 16).

The Lehman reference teaches regarding claim 26, a method for providing services in an automated contract environment comprising the steps of (Lehman: col. 3, lines 21-30):

- a) providing a communications pathway for transmitting and receiving communications of application entities and service entities (Lehman: col. 2, line 4; col. 3, lines 61-67);
- b) providing a tuple space in a shared memory connected to said communications pathway (Lehman: col. 1, lines 12-13; col. 2, lines 4-8; col. 3, lines 64-66); and
- c) posting and receiving messages of said application entities and said service entities to and from said tuple space synchronized atomically (Lehman: col. 2, lines 4-8; col. 1, lines 12 and 13).

The Lehman reference does not explicitly state the use of discrete time intervals.

The Ahmed reference teaches adapted for operation in discrete time intervals (Ahmed: col. 5, lines 24-38) in a tuple environment.

The Ahmed reference further teaches the start and end times indicate a time interval in which the tuple contains current information (Ahmed: col. 5, lines 24-38)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create a system for information controlling and exchange as taught by Lehman while

employing discrete time intervals as taught by Ahmed to maintain tuples with a temporal attribute to maintain current information (Ahmed: col. 5, lines 24-28).

The Applicant Argues:

The Lehman reference does not disclose or suggest “a shared memory connected to said communications pathway for maintaining a tuple space on which said entities post and receive messages synchronized to discrete time intervals.”

In response, the examiner respectfully submits:

The examiner asserts the Lehman reference does teach a shared memory connected to a communications pathway for maintaining a tuple space (Lehman: col. 1, lines 12-13) on which said entities post and receive messages synchronized atomically (Lehman: col. 2, lines 4-8; col. 3, lines 64-66).

Lehman teaches atomic synchronization, the rejection does not rely on Lehman to teach discrete time intervals.

The applicant further argues the Ahmed reference does not teach messages synchronized to discrete time intervals.

Ahmed teaches a computing system including multiple processors (col. 5, lines 8-13). Ahmed teaches the tuples include a temporal attribute used in determining the time interval in which they are considered current or useful (col. 5, lines 24-38). Figure 2 shows the intervals in which actions are performed along time periods and the start and end times are distinct time intervals in which the tuple space is used for message posting and retrieval.

The combination of Ahmed and Lehman teach with the discrete time intervals (Ahmed: col. 5, lines 24-38) in the shared memory system.

Applicant argues the motivation of using Lehman in view of Ahmed. The motivation has been further addressed in the claim language above.

CONCLUSION

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R Bruckart whose telephone number is (703) 305-0324. The examiner can normally be reached on 8:00-5:30PM with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (703) 308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2155

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin R Bruckart

Examiner

Art Unit 2155

brb

March 19, 2004

BRB

Hosain Alam
HOSAIN ALAM
SUPERVISORY PATENT EXAMINER